

1. (currently amended) A system for interfacing with and handling disk drives in an automated library having a drawer with a drawer connector, the apparatus comprising:

a disk drive carrier having a disk drive mounted thereto, a backplane connector adapted to interconnect with the drawer connector, and an interface connector, wherein the disk drive carrier is adapted to be inserted into the drawer;

a picking tool having securing means for securing the disk drive carrier to the picking tool, and interface means for interfacing with the interface connector of the disk drive carrier; and

control means for controlling the picking tool and communicating information with the disk drive through both the backplane connector via the drawer connector, and through the interface connector via the interface means, such that the picking tool is adapted to remove the disk drive carrier from the drawer, transport the disk drive carrier, and place the disk drive carrier in the drawer, wherein the interface connector and the interface means utilize optical service interfaces utilizing matched pairs of LEDs and phototransistors.

2. (original) The system of claim 1 wherein the disk drive carrier has a hole through which the interface means of the picking tool extends.

3-4. (canceled)

5. (original) The system of claim 1 wherein the securing means of the picking tool is an electromagnet.

6. (original) The system of claim 1 wherein the interface means is a tapered guide pin.

7. (original) The system of claim 1 wherein the securing means provides horizontal support for the disk drive carrier, and the interface means provides vertical support for the disk drive carrier.

8. (original) The system of claim 1 wherein the disk drive carrier is attracted to and repelled from the picking tool by reversibly actuating the securing means.

9. (currently amended) An automated disk drive library, comprising:  
a drawer having a drawer connector;  
a disk drive carrier for insertion into and removal from the drawer, the disk drive carrier having a disk drive mounted thereto, a backplane connector for interconnecting with the drawer connector, and an interface connector;  
a picking tool having securing means for securing the disk drive carrier to the picking tool, and interface means for interfacing with the interface connector of the disk drive carrier, wherein the disk drive carrier is attracted to and repelled from the picking tool by reversibly actuating the securing means; and  
control means for controlling the picking tool and communicating information with the disk drive through both the backplane connector via the drawer connector, and through the interface connector via the interface means, such that the picking tool removes the disk drive carrier from the drawer, transports the disk drive carrier, and places the disk drive carrier in the drawer, wherein the interface connector and the interface means utilize optical service interfaces having matched pairs of LEDs and phototransistors.
10. (original) The automated disk drive library of claim 9 wherein the disk drive carrier has a tapered hole through which the interface means of the picking tool extends, and wherein the tapered hole and interface means are complementary in shape.
11. (canceled)
12. (original) The automated disk drive library of claim 9 wherein the securing means of the picking tool utilizes electromagnets that selectively attract and repel the disk drive carrier via magnets secured to the disk drive carrier.
13. (original) The automated disk drive library of claim 9 wherein the interface means is a tapered guide pin having a service interface on a distal end for interfacing with the interface connector of the disk drive carrier.

14. (original) The automated disk drive library of claim 9 wherein the securing means provides horizontal support for the disk drive carrier, and the interface means provides vertical support for the disk drive carrier.

15-18. (canceled)